

**Remarks**

Examiner Kianni is thanked for the thorough Office Action.

**Election/Restriction**

Applicant acknowledges the final of the requirement of with respect to the applicant's traverse of Group A invention claims 1 to 16. Please cancel non-elected claim 17 to 57. Applicant reserves the right to prosecute these claims a divisional patent application at a later date.

**In the Drawings**

Applicant acknowledges the Examiner's acceptance of the proposed changes to Fig. 6, Sheet 7/11.

**In the Claims**

Claims 1 and 12 have been amended in a manner believed to overcome the Examiner's 35 U.S.C. §112, second paragraph, rejections. Claims 2, 12 and 16 have been amended to correspond to the amendments to independent claim 1.

These amendments are not believed to have narrowed any limitation of these claims.

Claims 58 to 74 are new and have been added to better encompass the full scope and breadth of the invention notwithstanding the patentability of the original claims.

### **Claim Rejections**

#### **The Rejection Of Claims 1 And 12 (1 To 16) Under 35 U.S.C. §112, Second Paragraph, as Being Indefinite for Failing to Particularly Point Out and Distinctly Claim the Subject Matter Which Applicant Regards as the Invention**

The rejection of claims 1 and 12 (1 to 16) under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention is acknowledged.

Claims 1 and 12 have been amended in a manner believed to overcome the Examiner's 35 U.S.C. §112, second paragraph, rejections.

**The Rejection Of Claims 1 To 4 And 6 to 16 Under 35 U.S.C. §103(a) as Being**  
**Unpatentable Over Davids et al. (U.S. Patent Application Publication No.**  
**2003/0161571 A1)**

The rejection of claims 1 to 4 and 6 to 16 under 35 U.S.C. §103(a) as being unpatentable over Davids et al. (U.S. Patent Application Publication No. 2003/0161571 A1) (the '571 Davids Pub.) is acknowledged.

Applicants' wish to briefly point up the claimed features of their invention which are believed to be not shown nor obvious from the teachings of known references in this field. The claims all clearly define (see claim 1, for example) a method of forming a substantially planar surface of an optical waveguide device, comprising the steps:

(1) forming at least one waveguide core portion within at least one cladding portion; the waveguide core portion having an upper surface; the cladding portion having a higher portion over at least the waveguide core portion and a lower portion;

(2) forming a patterned sacrificial portion over the lower cladding portion and a portion of the higher cladding portion, leaving a second portion of the higher cladding portion exposed;

(3) removing at least a portion of the exposed second portion of the higher cladding portion by a selective removal process selective to the patterned sacrificial

portion leaving a remnant of the exposed second portion of the higher cladding portion;

(4) planarizing:

(a) the remnant of the exposed second portion of the higher cladding portion over the waveguide core portion; and

(b) the lower cladding portion;

to form a planarized cladding portion coplanar with the upper surface of the waveguide core portion;

to form the substantially planar surface of an optical waveguide device.

However, inter alia, the '571 Davids Publication does not disclose the claimed limitations of:

"... (3) removing at least a portion of the exposed second portion of the higher cladding portion by a selective removal process selective to the patterned sacrificial portion *leaving a remnant of the exposed second portion of the higher cladding portion;*

(4) planarizing:

(a) *the remnant of the exposed second portion of the higher cladding portion over the waveguide core portion; and*

(b) the lower cladding portion; ... " (emphasis added)

Instead, as noted by the Examiner, Davids discloses at paragraph [0024] and shown in Figs. 9A and 9B, "... top cladding layer 50 is deposited over waveguide 32...[and] is planarized ... resulting in a top cladding layer 50 thickness  $T_6$ ..." and *then* in paragraph [0025] "... [p]ortions of top cladding layer 50 exposed by the openings defined by the photoresist layer [not shown] are removed...[forming] first contact hole 60 over emitter 34 and second contact hole 62 over collector 36." The Examiner clearly defines the patterned top cladding layer 50 having holes 60, 62 (Figs. 10A, 10B) (paragraph [0025]) as being the instantly claimed "remnant of the exposed second portion of the higher cladding portion..." and improperly temporally uses the *previous* planarization of the *non*-remnant (non-patterned) top cladding layer 50 (Figs. 9A, 9B) ( paragraph [0024]) as the instantly claimed "planarizing (a) the remnant of the exposed second portion of the higher cladding portion over the waveguide core portion...". Simply put, one may not planarize a remnant until that remnant is formed. Davids discloses planarization of a non-remnant portion (cladding layer 50) (paragraph [0024]) and then forming the remnant portion (cladding layer 50 having first and second holes 60, 62) (paragraph [0025]).

Thus, independent claim 1 distinguish over the '571 Davids Pub. under §103(a) for the above reasoning and further because, inter alia: the prior art lack a suggestion that the Davids reference should be modified in a manner required to meet the claims; the Examiner misunderstood the Davids reference; the invention

is contrary to the teaching of the prior art – that is, the invention goes against the grain of what the prior art teaches; the Examiner has not presented a convincing line of reasoning as to why the claimed subject matter as a whole, including its differences over the prior art, would have been obvious; and the Davids reference teaches away from the instantly claimed invention.

Independent claim 58 incorporates the allowable subject matter limitation of claim 5 (see below) and, applicant urges, is thus allowable.

Claims 2 to 16 depend from independent claim 1; and claims 59 to 74 depend, directly or indirectly, from independent claim 58; and are believed to distinguish over the combination for the reasons previously cited.

#### **Allowable subject matter**

The objection to claim 5 as being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims is acknowledged. Applicant requests that the rewriting of allowable claim 5 be held in abeyance pending the final determination of the allowability of amended parent claim 1.


Therefore claims 1 to 15 and 58 to 74 are submitted to be allowable over the cited references and reconsideration and allowance are respectfully solicited.

### CONCLUSION

In conclusion, reconsideration and withdrawal of the rejections are respectively requested. Allowance of all claims is requested. Issuance of the application is requested.

It is requested that the Examiner telephone Stephen G. Stanton, Esq. (#35,690) at (610) 296 - 5194 or the undersigned attorney/George Saile, Esq. (#19,572) at (845) 452 - 5863 if the Examiner has any questions or issues that may be resolved to expedite prosecution and place this Application in condition for Allowance.

Respectively submitted,

A handwritten signature in black ink, appearing to read 'S. B. Ackerman', is written over a horizontal line.

Stephen B. Ackerman  
Reg. No. 37,761